

Name: _____ Date: _____ Period: _____

Unit 1 Test – Form A

Variables and Translations. Write an algebraic expression for each phrase. (2 pts.)

a. the sum of 8 and two times a number _____

b. 8 less than the quotient of 10 and a number _____

Define variables and write an equation to model the following situation. (4 pts.)

a. The total length of the edges of a cube is 12 times the length of an edge.

b. The total cost of lunch is \$5.50 times the number of people at the table.

rGEMDAS. Simplify the following expressions. (8 pts.)

$$(6 + 25 - 7) \div 6$$

$$(8 + 5) \times \frac{35}{5} + 6$$

$$\frac{8}{5 - 1} \times (3 + 6) \times 3$$

$$9 + [4 - (10 - 9)^2]$$

Evaluate Expressions. Evaluate each expression. Use $a = 4$ $b = -2$ $c = 1$ (8 pts.)

$$3a^2 - (b - c)$$

$$6(a + 2b) + b^2$$

$$4bc - a^2$$

$$\frac{4a + b}{2}$$

Operations with Integers. Simplify. (3 pts.)

$$|-7| = \underline{\hspace{2cm}}$$

$$6 + |8 - 12| = \underline{\hspace{2cm}}$$

$$-3|1 - 5| + 10 = \underline{\hspace{2cm}}$$

Distributive Property. Simplify. (6 pts.)

$$-2(3x + 5)$$

$$21x + 7 = \underline{\hspace{2cm}}$$

$$2x - 12 = \underline{\hspace{2cm}}$$

$$-5 - (3x - 3) - 11x + 5$$

Properties of Numbers. Simplify the expression. Justify each step. (5 pts.) Evaluate the expression for $t = -4$ for two bonus points. Write your answer here:___

$2(3t + 1) + 5t$	Expression

What are the four properties that allow us to solve equations? (4 pts.)

Unit 1 is done! What do you think of Algebra (not the class, the subject/topic)? What do you think algebraic thinking is? Your answer must be AT LEAST three sentences. (2 points)
